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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,748	11/03/2003	Todd P. Lukanc	H1695	4255

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EXAMINER	
ROSASCO, STEPHEN D	

ART UNIT	PAPER NUMBER
1756	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/699,748	LUKANC ET AL.	
	Examiner	Art Unit	
	Stephen Rosasco	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 November 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/19/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norishima et al. (5,436,097) in view of Kaneko et al. (6,589,699).

The claimed invention is directed to a mask and a method of making a mask for use in a lithographic process comprising: providing a mask blank including a substrate, a sacrificial conductive layer disposed over the substrate and a radiation shielding layer disposed over the sacrificial conductive layer;

forming structures from the radiation shielding layer to define a pattern; and measuring parameters associated with the structures with a measurement tool, during the measuring the sacrificial conductive layer provides a conductive plane to dissipate charge transferred to the mask by the measurement tool.

Norishima et al. teach a mask for evaluation of an aligner and a method of evaluating an aligner, comprising the steps of: mounting, onto the aligner to be evaluated, an exposure mask formed on a transparent substrate provided with a plurality of resistance measurement pattern blocks each including a plurality of resistance measurement patterns which have shapes identical to each other, wherein said plurality of resistance measurement pattern blocks are distributed over a substantial portion of an available exposure area of the aligner;

exposing photo-resist coated on a substrate to light using said aligner and developing said photo-resist to form a photo-resist mask pattern;

etching a conductive film formed on said substrate with said photo-resist mask pattern being used as a mask, thus to form the conductive film into a pattern of a plurality of resistance measurement pattern blocks each including a plurality of resistance measurement patterns; and

measuring resistance values of at least a plurality of said resistance measurement patterns formed from said conductive film to determine resistance values within said respective resistance measurement pattern blocks, and comparing resistance values measured in different respective resistance measurement pattern blocks to thereby evaluate the uniformity of aligner performance.

And wherein said step of measuring resistance values comprises the steps of applying a current between two terminals of said resistance measurement pattern and measuring a voltage between two terminals of said resistance measurement pattern.

And wherein said current terminals of said resistance measurement pattern are different from said voltage terminals of said resistance measurement pattern.

The teachings of Norishima et al. differ from those of the applicant in that the applicant teaches that the applicant teaches a radiation shielding layer comprised of CrON.

Kaneko et al. teach a photomask blank comprising a transparent substrate and, on the substrate, at least one light-shielding film and at least one antireflective film, wherein each film is composed of a CrCO layer, or a CrCON layer, or a combination of CrCO and CrCON layers.

(col. 2, lines 35-65) Kaneko et al. also teach that in photomasks or photomask blanks which comprise a transparent substrate having thereon at least one light-shielding film and at least one antireflective film, by forming each film from a CrCO layer, a CrCON layer, or a combination of CrCO and CrCON layers, these CrCON layers and CrCO layers have smaller film stresses than conventional chromium films, resulting in minimal change in substrate warp after formation of the light-shielding film and the antireflective film relative to before film formation. Hence, photomask blanks and photomasks having a high degree of surface flatness can be obtained.

It would have been obvious to one having ordinary skill in the art to take the teachings of Norishima et al. and combine them with the teachings of Kaneko et al. in order to make the claimed invention because it would be obvious to one to use a material which is known to have smaller film stress especially when surface charging is a factor.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Stephen Rosasco whose telephone number is (571) 272-1389. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM. The Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Rosasco
Primary Examiner
Art Unit 1756

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06/13/05